REMARKS

Claims 17-29, 32-44, and 60, which were examined in the parent application, have been canceled.

Claims 61-89 are presented.

Insofar as claims 61-89 are directed to a method of surgery, they correspond to the invention examined in the parent application.

Examination of claims 61-89 is respectfully requested.

Respectfully submitted,

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New claims 61-89 with parentheticals indicating support therefore in the specification are shown below.

61. (New) A surgical method, comprising:

generating a pump beam pulse; **(page 10 line 8)**

transmitting said pump beam pulse into a KTP crystal along a propagation direction that is substantially not parallel to a principle axis of said KTP crystal; **(page 14 lines 3-5)**

wherein said KTP crystal converts a fraction of energy in said pump beam pulse into an idler beam pulse, and said idler beam pulse has a wavelength of between about 2.75 and about 3.0 microns; and **(page 15 lines 4-8)**

impinging said idler beam pulse on tissue. **(page 7 lines 15-19)**

62. The method of claim 61 wherein said generating comprises generating said pump beam pulse having a wavelength of about one micron. **(page 10 line 9)**

63. The method of claim 61 wherein said generating comprises generating said pump beam pulse such that said pulse has a duration of less than about 30 nanoseconds. **(page 10 line 9; and page 15 line 15)**

64. The method of claim 61 wherein said generating comprises generating said pump beam as a multi mode beam. **(page 15 line 16)**

65. The method of claim 61 wherein said generating comprises generating said pump beam pulse as a multi mode beam having a divergence greater than eight times a diffraction limit of said beam. **(page 15 line 16)**

66. The method of claim 61 wherein said pump beam pulse has a diameter on the order of one to five millimeters. **(page 16 line 8)**

67. The method of claim 61 wherein said impinging comprises impinging said idler beam pulse on corneal tissue. **(page 10 lines 16-17)**

68. The method of claim 61 further comprising sculpting a cornea with a plurality of idler beam pulses. **(paragraph spanning pages 10 and 11)**

69. The method of claim 61 further comprising cutting said KTP crystal for type II phase matching, and internal angles of sixty eight to seventy degrees. **(page 14 line 3)**

70. The method of claim 61 wherein said generating comprises generating said pump beam pulse in one of a Nd: YAG, Nd:glass, Nd:YLF, and Nd:YAlO3 laser. **(paragraph spanning pages 12 and 13)**

71. The method of claim 61 further comprising cutting said KTP crystal to have a length of at least 20 millimeters. **(page 14 line 17)**

72. The method of claim 61 wherein said KTP crystal has a principle axis, and further comprising rotating said KTP crystal relative to said principle axis. **(page 14 lines 23-24)**

73. The method of claim 61 wherein said step of transmitting comprises transmitting said idler beam pulse with an energy of between five and thirty milli joules. **(page 14 lines 20)**

74. The method of claim 61 wherein said KTP crystal has a principle axis, and further comprising rotating said KTP crystal relative to said principle axis to an absorption wavelength of said tissue. **(paragraph spanning pages 14 and 15)**

75. The method of claim 61 wherein said KTP crystal converts at least one tenth of energy in said pump beam pulse into said idler beam pulse. **(page 15 line 16)**

76. The method of claim 61 further comprising generating pump beam pulses at a rate of ten to fifty hertz. **(page 9 lines 21-22)**

77. The method of claim 61 further comprising transmitting remainder of said pump beam pulse exiting said KTP crystal through a second KTP crystal. **(page 17 line 9)**

78. The method of claim 61 further comprising transmitting said pump beam to said KTP crystal via one of a waveguide and a fiber optic bundle. **(paragraph spanning pages 18 and 19)**

79. The method of claim 78 further comprising interlacing an idler beam pulse output generated in a second KTP crystal with said idler beam pulse. **(Page 20 line 4)**

80. (New) A surgical method, comprising:

generating a pump beam pulse;

transmitting said pump beam pulse through a mirror that is highly reflective to a wavelength of an idler beam pulse and highly transmissive to a wavelength of said pump beam pules, said mirror oriented at an angle of forty five degrees relative to said pump beam pulse; **(paragraph spanning pages 16 and 17)**

transmitting said pump beam pulse into a crystal; **(page 14 lines 3-5)**

wherein said crystal converts a fraction of energy in said pump beam pulse into said idler beam pulse, and said idler beam pulse wavelength is about 2.75 and about 3.0 microns; and **(page 15 lines 4-8)**

impinging said idler beam pulse on tissue.

81. (New) A surgical method, comprising:

generating a pump beam pulse;

transmitting said pump beam pulse into a periodically poled KTP crystal; **(page 20 line 14)**

wherein said KTP crystal converts a fraction of energy in said pump beam pulse into an idler beam pulse, and said idler beam pulse has a wavelength of between about 2.75 and about 3.0 microns; and **(page 15 lines 4-8)**

impinging said idler beam pulse on tissue.

82. (New) A surgical method, comprising:

generating a pump beam pulse;

transmitting said pump beam pulse into a periodically poled LiNbO3 crystal; **(page 20 lines 18)**

wherein said periodically poled LiNbO3 crystal converts a fraction of energy in said pump beam pulse into an idler beam pulse, and said idler beam pulse has a wavelength of between about 2.9 and about 3.0 microns; and **(page 20 lines 19)**

impinging said idler beam pulse on tissue.

83. (New) A surgical method, comprising:

generating a pump beam pulse at a wavelength of between about 0.85 and 0.90 microns;

transmitting said pump beam pulse into a non critically phase matched KTP crystal, X-cut; **(page 20 last line)**

wherein said non critically phase matched KTP crystal crystal converts a fraction of energy in said pump beam pulse into an idler beam pulse, and said idler beam pulse has a wavelength of between about 2.9 and about 3.0 microns; and **(page 20 lines 19)**

impinging said idler beam pulse on tissue.

84. The method of claim 83 wherein said generating comprises generating said pump beam pulse in one of a Ti: Sapphire and a Cr: LiSAF laser. **(page 21 lines 3-7)**

85. (New) A surgical method, comprising:

generating a pump beam pulse;

transmitting said pump beam pulse into a crystal along a propagation direction;

wherein said crystal converts a fraction of energy in said pump beam pulse into an idler beam pulse, and said idler beam pulse has a wavelength of between about 2.75 and about 3.0 microns, a pulse width of not more than 50 nanoseconds, and an energy of at least 5 millijoules; and **(page 14 line 16; 20; and page 15 line 6)**

impinging said idler beam pulse on tissue.

86. (New) The method of claim 85 wherein said step of generating said pump beam comprises generating said pump beam at a pulse duration of not more than 30 nanoseconds. **(page 15 line 15; and page 10 line 9)**

87. (New) The method of claim 85 wherein said step of generating said pump beam comprises generating said pump beam at a wavelength of about one micron. **(page 10 line 9)**

88. (New) The method of claim 87 wherein said step of generating said pump beam comprises generating said pump beam with an energy of no more than 30 millijoules per pulse. **(page 14 lines 20)**

89. (New) The method of claim 85 further comprising rotating said crystal relative to said propagation direction. **(paragraph spanning pages 14 and 15)**

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